

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposed Endangered Status and Critical Habitat for Smoky Madtom ("Noturus Bailey")

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to determine the smoky madtom (*Noturus baileyi*), a small catfish, to be an Endangered species and to designate its Critical Habitat. This proposal, if made final, would implement Federal protection provided by the Endangered Species Act of 1973, as amended. The smoky madtom was thought to be extinct when extirpated from Abrams Creek, Great Smoky Mountains National Park, Blount County, Tennessee, in 1957. It was rediscovered in Citico Creek in 1980, and the results of an extensive survey indicate that the species is now apparently restricted to approximately 6.5 miles of Citico Creek, primarily within the Cherokee National Forest, Monroe County, Tennessee. With this restricted range, a single catastrophic event could render the species extinct. The Service is requesting information on environmental and other impacts that would result from listing the smoky madtom as an Endangered species and designating its Critical Habitat.

DATES: Comments from all parties must be received by January 20, 1984. Public hearing requests must be received by January 5, 1984.

ADDRESSES: Interested persons, organizations, agencies, and governments are requested to submit comments to Field Supervisor, Asheville Endangered Species Field Station, U.S. Fish and Wildlife Service, Plateau Building, Room A-5, 50 South French Broad Avenue, Asheville, North Carolina 28801. Comments and material relating to this proposal are available for public inspection by appointment during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. Richard G. Biggins, Asheville Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801; (704/259-0321) or Mr. John L. Spinks, Jr., Chief, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240; (703/235-2771).

SUPPLEMENTARY INFORMATION:**Background**

The smoky madtom (*Noturus baileyi*) was believed extinct until September 1980 when it was discovered by a U.S.

Fish and Wildlife Service survey crew sampling in Citico Creek, a tributary of the Little Tennessee River in Monroe County, Tennessee. Presently, this is the only population known to exist. The species was originally discovered in 1957 in Abrams Creek, a Little Tennessee River tributary in the Great Smoky Mountains National Park, Blount County, Tennessee, by a Service crew which was treating the creek with a fish toxicant to remove unwanted fish species from the Chilhowee Reservoir watershed prior to the closure of Chilhowee Dam. This was a routine procedure at the time, designed to enhance the chances of establishing a trout fishery in the new reservoir. The smoky madtom specimens taken from Abrams Creek during this project were used by Taylor (1969) to describe the species.

A study of the smoky madtom, funded by the Service, was completed in November 1982 (Dinkins, 1982). That survey involved extensive sampling at 44 locations in the Little Tennessee River drainage in North Carolina and Tennessee; two tributaries in the Hiwassee River, Tennessee; and one tributary in the Pigeons River, Tennessee. Although some habitat looked favorable for the species, the smoky madtom was not found outside Citico Creek.

The species is known from a total of 6.5 miles of Citico Creek, primarily within the Cherokee National Forest. One individual was found about 1 mile below the National Forest's boundary, but this area contains little of the species' preferred habitat. The species' prime habitat and the rest of the individuals observed during the study (67) were located on Forest Service lands above the upper Citico Creek bridge on Mountain Settlement Road.

The biology of this madtom is poorly understood. However, this small (largest known individual 2.9 inches total length) member of the catfish family is probably nocturnal, and likely feeds on aquatic insects. The fish has been found in various stages of breeding condition during the spring and summer, and nests (containing an average of 35 eggs) have been located under large slab rocks in pool areas during July (Dinkins, 1982). During the period of May to November, smoky madtoms are generally found associated with palm-sized slab rock at either the crest or base of riffles. Their habitat during the rest of the year is unknown.

The apparent limited distribution of this species leaves it vulnerable to a single catastrophic event which could completely eliminate it. The fish's habitat could also be degraded by logging activities, road and bridge

construction and maintenance, mineral exploration, and other disturbances within the Citico Creek watershed if these activities are not carefully designed and carried out with the survival of the species in mind.

On June 22, 1982, the Fish and Wildlife Service published in the **Federal Register** (47 FR 26878-26879) a notice that a review of this species' status was being conducted. That notice requested data on the species' status, and solicited information on environmental and economic impacts and the effects on small business that could result if the species and its Critical Habitat were listed. The following is a summary of each of the responses received.

Tennessee Wildlife Resources Agency recommended listing the species as an Endangered species and designating Critical Habitat. They also noted that extreme care was needed to ensure that no habitat deterioration took place in the creek or its watershed.

Tennessee Department of Public Health recommended the species and its Critical Habitat in Citico Creek watershed be listed under the Endangered Species Act. They expressed concern for the species if mineral exploration occurred in the watershed. They stated that the watershed contains geologic formations of anakeesta shale. Anakeesta has a 10 percent sulfide content and forms sulfuric acid upon contact with water. They caution that mineral explorations could expose anakeesta and result in acid contamination of Citico Creek. They further explained that acid which enters the watershed can oxidize or bring into solution aluminum and other metals that are naturally found in the soils. These metals, especially aluminum, are extremely toxic to the aquatic ecosystem.

U.S. Department of Agriculture, Forest Service stated they had no proposed activities directly involving Citico Creek. They expressed concern that designating Critical Habitat could have the most significant effect on future timber sales, accompanying road construction, and on possible mineral exploration in the watershed. However, they said no road crossings of Citico Creek were being planned and significant exploration for oil and gas was unlikely. In summary, they stated " * * * know of no existing or proposed activity that would affect the quality of Citico Creek, nor do we know of significant impacts to small businesses or organizations."

U.S. Department of the Interior, National Park Service responded that their agency did not have any jurisdiction over the area where the species is presently found. However,

they did urge protection for the species and its habitat. The species was first discovered in Abrams Creek in Blount County, Tennessee, which is within the Great Smoky Mountains National Park. The Park Service has shown considerable interest in reestablishing the species in Abrams Creek.

U.S. Department of Transportation, Federal Highway Administration informed the Service that a Federal-aid secondary road system parallels Citico Creek at the lower end of the creek section where one smoky madtom was found. (This creek section is below the area proposed for Critical Habitat.) Although no State requests are pending, Federal-aid funds for this short road section may be requested in the future. In spite of potential projects which may impact the species, they state: "We see no reason why these projects could not be implemented with proper measures to prevent significant impacts on the quality of Citico Creek. Listing of the species and designating Critical Habitat may result in additional coordination/consultation efforts but should not have any significant effect on the Federal-aid highway program."

Department of the Army, Corps of Engineers, Office of Chief Engineer responded that the designation of Citico Creek as Critical Habitat for the smoky madtom would not have a significant effect on any Corps of Engineers program. They further stated: "The Corps of Engineers concurs with the preservation of the species through listing and the designation of its Critical Habitat."

U.S. Soil Conservation Service had no proposed or planned projects in the Citico Creek watershed.

U.S. Nuclear Regulatory Commission reported they had no existing or proposed activities which might affect the species or its habitat.

Federal Energy Regulatory Commission reported that at this time they had no licensed project or preliminary permits issued in the area inhabited by the smoky madtom.

Tennessee Valley Authority stated the area of Citico Creek where the madtom existed was not owned or controlled by TVA. However, the agency had been involved in planning, reviewing, and implementing proposals in this Creek's watershed. They did not report on any presently ongoing projects that would impact the species.

We received one comment on the biology and status of the species from the private individual conducting the smoky madtom status survey for the Service. He recommended the species be

listed as Endangered and a portion of Citico Creek be designated as Critical Habitat. This information was utilized in the preparation of this proposal.

Summary of Factors Affecting the Species

The Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424; under revision to accommodate 1982 amendments) set forth the procedures for adding species to the Federal list. A species shall be determined to be an Endangered or a Threatened species due to one or more of the five factors described in Section 4(a)(1) of the Act. These factors, and their application to the subject species are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range. The smoky madtom is presently known from only 6.5 miles of Citico Creek. With such a limited distribution, the species could be rendered extinct by a single catastrophic event, either natural or human-related. Potential threats to the species and its Critical Habitat could also come from logging activities, road and bridge construction and maintenance, mineral exploration, and other projects in the watershed if these activities are not planned and implemented with the survival of the species in mind.

Other than the potential soil erosion and siltation problems associated with any land disturbance, a more serious problem could arise in this watershed. The Citico Creek watershed contains geologic formations of anakeesta shale, an acid-bearing rock which has caused problems in the past. Bergendahl, *et al.* (1977) reported that in the 1970's a formation of anakeesta was exposed during construction of the Tellico-Robbinsville Highway. Acid leaching from a road cut increased the concentration of sulfates, heavy metals, and acidity in Grassy Branch, a tributary of the South Fork Citico Creek. In 1978, surveys of Grassy Branch revealed no fish life. Attempts have been made to mitigate this problem, but they have not been entirely successful. Other formations of anakeesta do exist in the watershed, and there is a danger that they too could be exposed during construction activities.

B. Overutilization for commercial, recreational, scientific, or educational purposes. There is no evidence of overutilization for this species.

C. Disease or predation. There is no evidence of threats from disease or predation.

D. The inadequacy of existing regulatory mechanisms. Tennessee State law (Sections 51-904) prohibits the

taking of the smoky madtom without a permit. This law also provides a mechanism which encourages the protection of the fish's habitat. Federal listing would provide necessary additional protection for the species by requiring Federal agencies to consult with the Service when projects they fund, authorize, or carry out may affect the species.

E. Other natural or manmade factors affecting its continued existence. Several species of madtoms have, for still unexplained reasons, been extirpated from portions of their range. Etnier and Jenkins (1981) speculated that this may " * * * in addition to visible habitat degradation, be related to their being unable to cope with olfactory 'noise' being added to riverine ecosystems in the form of a wide variety of complex organic chemicals that may occur only in trace amounts." Organic pollution is minimal in the Citico Creek system. However, if madtoms are adversely impacted by increased concentrations of complex organic chemicals, any increase in these materials could cause a problem for this isolated population.

Critical Habitat

Section 4(a)(3) of the Act requires the Secretary to designate Critical Habitat for a species, to the maximum extent prudent and determinable, concurrent with the determination that such species is an Endangered or Threatened species. The 50 CFR Part 424 defines "Critical Habitat" to include areas within the geographical area occupied by the species at the time the species is listed that are essential to the conservation of the species and that may require special management considerations of protection and specific areas outside the geographic area occupied by the species at the time upon a determination by the Secretary that such areas are essential for the conservation of the species.

Proposed Critical Habitat for the smoky madtom is as follows:

Citico Creek, Cherokee National Forest, Monroe County, Tennessee, from the Cherokee National Forest boundary at Upper Citico Bridge on Mountain Settlement Road (approximately creek mile 4.3) upstream to the confluence of Citico Creek with Barkcamp Branch (approximately creek mile 10.8).

As specified in the listing regulations (50 CFR 424.12(b)) the Service shall consider in determining what areas are Critical Habitat those physiological, behavioral, ecological, and evolutionary requirements essential to the conservation of the species and that may require special management consideration or protection. These requirements include, but are not limited

to: (1) Space for individual and population growth and normal behavior; (2) food, water, air, light, minerals, or other natural or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, rearing of offspring, and generally; and (5) habitats that are protected from disturbance or are representative of the historic geographical and ecological distribution of a species.

In addition to the present high water quality in Citico Creek, the smoky madtom requires run/pool areas with pea-size gravel substrate containing scattered large flat rocks for nesting cover. The species utilizes palm-sized slab rocks for cover, and relatively silt-free riffle areas during other times of the year. The area proposed for Critical Habitat provides the smoky madtom with all of the necessary constituent elements for completion of its life cycle. If the quality of this creek section can be maintained near its present level and no catastrophic event occurs, the species will likely continue to survive in Citico Creek.

Section 4(b)(8) of the Act requires that when proposing Critical Habitat, the Service shall, to the maximum extent practicable, describe and evaluate those activities (whether public or private) which may adversely modify such habitat, or which may be affected by such designation. Activities which presently occur within the proposed Critical Habitat include fishing, swimming, camping, nature study, and scientific research. These activities at their present use level do not appear to be adversely impacting Critical Habitat.

There are activities which do or could occur within the Citico Creek watershed and which may be affected by designating Critical Habitat. They include, in part, mineral exploration and mining, bridge and road construction and maintenance, logging, off-road vehicle use, and stream alterations. These activities, along with others that alter the watershed, could, if not controlled, degrade the water and substrate quality of Citico Creek by increasing siltation, water temperatures, organic pollutants, acidity, heavy metal concentrations, and extremes in water flow. If it is determined that any activity is likely to jeopardize the continued existence of the smoky madtom or likely to result in the destruction or adverse modification of its Critical Habitat, the activity will need to be modified unless an exemption to the Endangered Species Act is granted.

Available Conservation Measures

In addition to the effects discussed above, the effects of this proposal if

published as a final rule would include, but would not necessarily be limited to, those mentioned below. The Act and Endangered species regulations already published in the June 24, 1977, **Federal Register** (42 FR 32372) set forth a series of general prohibitions and exceptions that apply to all Endangered wildlife. These prohibitions are found in Section 17.21 of 50 CFR and are summarized below.

These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale this species in interstate or foreign commerce. It also would be illegal to possess, sell, deliver, carry, transport, or ship any such wildlife which was illegally taken. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving Endangered species under certain circumstances. Regulations governing permits are at 50 CFR 17.22. Such permits are available for scientific purposes or to enhance the propagation or survival of the species.

Subsection 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as Endangered or Threatened. This rule requires Federal agencies to satisfy their statutory obligations with respect to this species; that is, as a proposed species, agencies are required under Section 7(a)(4) to informally confer with the Service on any action that is likely to jeopardize the continued existence of this species or result in destruction or adverse modification of its proposed Critical Habitat. When species are listed, Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species, and to ensure that their actions are not likely to result in the destruction or adverse modification of its Critical Habitat.

As covered earlier in this proposal, both the U.S. Forest Service, that has jurisdiction over the Cherokee National Forest, and the Federal Highway Administration, which provides Federal aid funds for upkeep of the road paralleling the lower section of Citico Creek below the proposed Critical Habitat, have stated that they have no existing or proposed projects that would significantly impact Citico Creek.

Federal activities that could impact the species and its habitat in the future include, but are not limited to, the

following: Issuance of permits for mineral exploration, timber sales, recreational development, stream alterations, road and bridge construction and maintenance, and implementation of forest management plans. It has been the experience of the Service that the large majority of Section 7 consultations are resolved so that the species is protected and the project can continue.

The Service is required by Section 4(b)(2) of the Act to consider economic and other impacts of specifying a particular area as Critical Habitat. The Service will prepare an Economic Impact Analysis prior to the time of preparing a final rule involving the designation of Critical Habitat. This document will be the basis for the Service's decision as to whether or not to exclude areas from Critical Habitat for the smoky madtom. The Service notified Federal, State, and local agencies and governmental entities as part of a 1982 status review of this species. That notice requested information on economic and other impacts of the proposed action. No significant economic or other impacts were identified in the responses received.

The Service will renotify agencies and individuals as part of this proposal and solicit any information that may have become available in the interim.

Public Comments Solicited

The Service intends that the rules finally adopted will be as accurate and as effective as possible in the conservation of any Endangered or Threatened species. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, private interests, or any other interested party concerning any aspect of these proposed rules are hereby solicited. Comments particularly are sought concerning:

1. Biological, commercial, or other relevant data concerning any threat (or lack thereof) to the species included in this proposal;

2. The location of and the reason why any habitat of this species should or should not be determined to be Critical Habitat as provided for by Section 4 of the Act;

3. Additional information concerning the range and distribution of this species; and

4. Current or planned activities in the subject area and their possible impacts on the smoky madtom and its proposed Critical Habitat.

Final promulgation of regulations on the smoky madtom will take into

consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests should be made in writing and addressed to Warren T. Parker, Field Supervisor, Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801; (704/259-0321).

Author

The primary author of this proposed rule is Richard G. Biggins, Asheville Endangered Species Field Station, U.S. Fish and Wildlife Service, Plateau Building, Room A-5, 50 South French Broad Avenue, Asheville, North Carolina 28801; (704/258-2850, Ext. 321).

National Environmental Policy Act

In accordance with a recommendation from the Council on Environmental Quality (CEQ), the Service has not prepared any NEPA documentation for this proposed rule. The recommendation from CEQ was based, in part, upon a decision in the Sixth Circuit Court of Appeals which held that the preparation of NEPA documentation was not required as a matter of law for listing under the Endangered Species Act. *PLP v. Andrus* 657 F.2d 829 (6th Cir. 1981).

References

Bergendahl, B. S., J. L. Blackburn, and G. L. Klinedinst. 1977. Report on the geological and water quality of Tellico-Robbinsville

Road, Station 804+85+ to 956+10+. Region 15 Federal Highway Administration.

Dinkins, Gerald R. 1982. Status survey of the smoky madtom (*Noturus baileyi*): Final report under contract (number 14-16-004-81-060) to U.S. Fish and Wildlife Service, Asheville, North Carolina 28801. 33 pp.

Etnier, D. A., and R. E. Jenkins. 1981. *Noturus stanauli*, a new madtom catfish (Ictaluridae) from the Clinch and Duck Rivers, Tennessee. Bull. Ala. Mus. Nat. Hist. 5:17-22.

Taylor, W. R. 1969. A revision of the genus *Noturus* Rafinesque with an analysis of higher groups of Ictaluridae. (*Noturus baileyi* pp. 141-144). Bull. U.S. Nat. Mus., No. 282, p. 315.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife,

§ 17.11 [Amended]

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Fishes:
Madtom, smoky	<i>Noturus baileyi</i>	U.S.A. (TN)	Entire	E		17.95(e)	NA.

§ 17.95 [Amended]

3. It is further proposed to amend § 17.95(e) for "Fishes," by adding Critical Habitat for the smoky madtom as follows:

* * * * *

Smoky madtom

(*Noturus baileyi*)

Citico Creek, Cherokee National Forest, Monroe County, Tennessee, from the Cherokee National Forest boundary at upper Citico Bridge on Mountain Settlement Road

Fish, Marine mammals, Plants (agriculture).

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the United States Code of Federal Regulations, as set forth below:

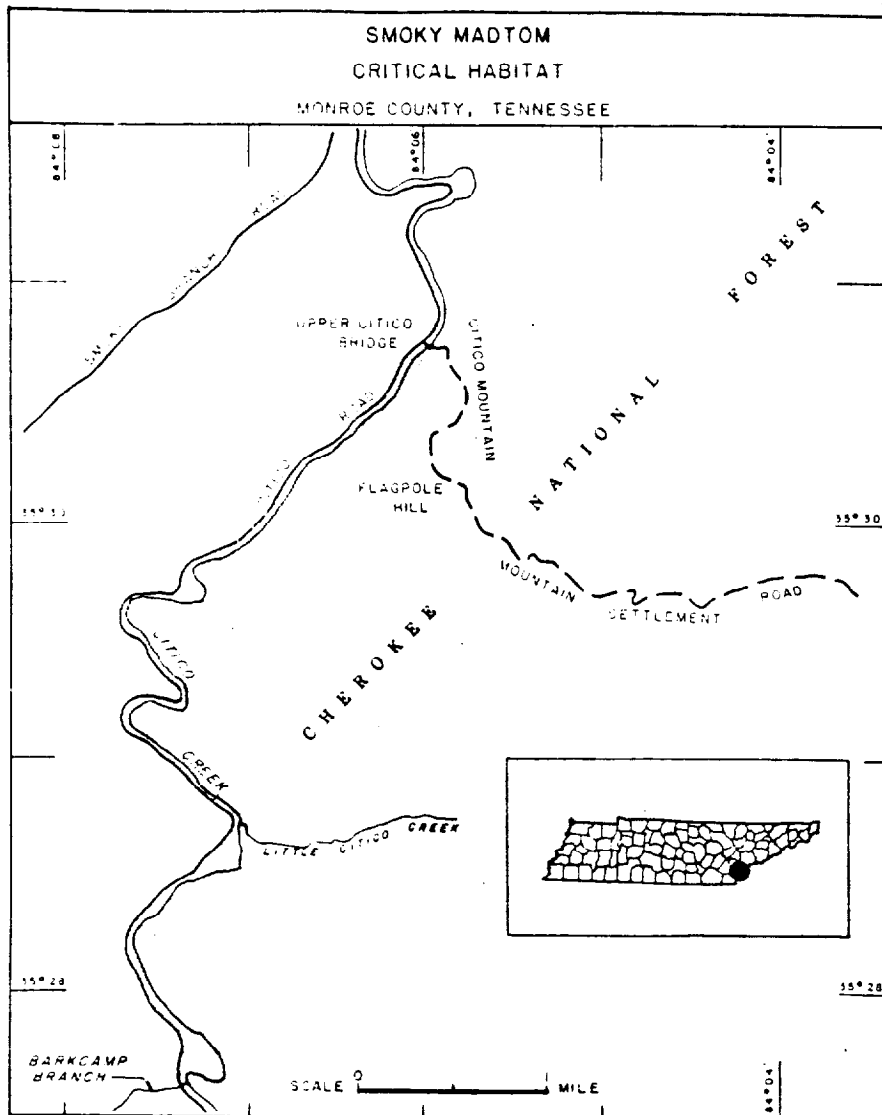
1. The authority citation for Part 17 reads as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*)

2. It is proposed to amend § 17.11(h) by adding, in alphabetical order, the following to the List of Endangered and Threatened Wildlife:

(approximately creek mile 4.3) upstream to the confluence of Citico Creek with Barkcamp Branch (approximately creek mile 10.8).

In addition to the present high water quality in Citico Creek, constituent elements of the Critical Habitat include run/pool areas with relatively silt-free pea-size gravel substrate containing scattered large flat rocks breeding habitat. The species utilizes palm-size slab rocks for cover and relatively silt-free riffle areas during other times of the year. The area proposed for Critical Habitat provides the smoky madtom with all of the necessary constituent elements for completion of its life cycle.



Dated: October 18, 1983.

J. Craig Potter,

*Acting Assistant Secretary for Fish and
Wildlife and Parks.*

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